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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/350,552	07/09/1999	MALCOLM J. MCARTHUR	875.00291	8337

7590 07/12/2006

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EXAMINER

KIM, TAE JUN

ART UNIT	PAPER NUMBER
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3746

DATE MAILED: 07/12/2006

#12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/350,552

Applicant(s)

MCARTHUR ET AL.

Examiner

Ted Kim

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 August 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: marked copy of declaration.

DETAILED ACTION

Oath/Declaration

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

It does not identify the city and either state or foreign country of residence of each inventor. The residence information may be provided on either an application data sheet or supplemental oath or declaration.

Applicant states that the zip codes for each of the two inventors is present in the original filed declaration. However, it is clear that the post office address for each of the inventors has not been filled out.

Drawings

2. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because the proposed drawings changes do not correspond to current office rules. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure

number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency.

Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant's use of the negative limitation "non-recirculating" is ambiguous and invokes the question of new matter. Applicant has only limited support

for this term, i.e. a narrow interpretation of "non-recirculating" to cover flows that do not recirculate to the tank/bladder. On the other hand, a broad interpretation of "non-recirculating" includes flows all types of non-recirculation in the system and applicant's original filed disclosure does not provide applicant had possession of such an embodiment as usually there is some type of recirculation occurring within a lubrication system.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-7, 10, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCarty (4,697,414) in view of Zankl (3,856,114) and optionally in view of Swearingen (4,390,082). McCarty a non-recirculating lubrication system for an expendable gas turbine in an airborne vehicle engine (see abstract) comprising a rotating shaft with said turbine engine, bearings 30, 32 journaling said shaft for rotation about an axis, a tank, a bladder 78 within the tank, a source of gas 42 under pressure, one of the tank and bladder containing lubricating oil for said bearings; the other of said tank and said bladder being connectable to said source of gas under pressure and a conduit 36 extending from said one of said tank and said bladder containing lubricating oil to said bearings 30, 32.

McCarty does not teach the use of a solenoid operating valve and a control circuit pulsing the solenoid. Zankl teaches it is old and well known in the lubrication art to employ a computer controlled solenoid valve 20, 22 and metering orifice 36 for pulsing the valve open and close in order to precisely meter the amount of lubricant to a drive shaft (which generally has to have bearings) and a control circuit for pulsing the solenoid at a controlled rate to alternately (a) allow oil flow and (b) halt oil flow to said bearings for a time insufficient to cause oil starvation of said bearings. Zankl teaches this advantageously reduces the amount of lubricant and lubricates the drive shaft more efficiency (col. 1, lines 23-30). It is noted that pulsing can occur very rapidly and is thus below the time limit for which oil starvation can occur (e.g. 3 seconds). It would have been obvious to one of ordinary skill in the art to employ a solenoid valve and metering orifice and control circuit, as taught by Zankl, in order to reduce the amount of lubricant and enhance the lubrication efficiency. McCarty teaches the one of said tank and said bladder is said bladder. McCarty does not teach that one of said tank and said bladder is said tank nor the use of a pressure regulator. Swearingen teaches a similar lubrication delivery system where the claimed one of said tank and said bladder is a tank, with tank 68 and bladder 74 for oil delivery 70 from the tank 68 and pressure regulator 86 (col. 3, lines 41+). It would have been obvious to one of ordinary skill in the art to employ using an input representative of the oil pressure (col. 4, lines 53+). It would have been obvious to one of ordinary skill in the art to employ tank and bladder and regulator, as taught by Swearingen, as an equivalent construction in the art and/or to facilitate greater control

over the delivery of the lubricant. The lubricant tank of McCarty is in close proximity to the engine hence is inherently warmed by heat of the engine.

7. Claims 8, 9, 11, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCarty (4,697,414) in view of Zankl (3,856,114) and optionally in view of Swearingen (4,390,082), as applied above, and further in view of Waddington et al (5,067,454).

McCarty teaches various aspects of the claimed invention but do not teach the claimed control circuit inputs. Waddington et al teach one of ordinary skill in the art to receive inputs of lubricant temperature, pressure, ambient temperature, altitude (see Fig. 2) and engine rpm, which is directly related to vehicle velocity. It would have been obvious to employ the inputs of lubricant temperature, pressure, ambient temperature, altitude, as taught by Waddington, as in order to provide for control over the lubrication system. It would have been obvious to one of ordinary skill in the art to one of ordinary skill in the art to convert engine rpm to vehicle velocity as an equivalent measure known in the art.

Response to Arguments

8. On behalf of the USPTO, the examiner apologizes for the delay in prosecution due to the previous status of the application as "lost."

9. Applicant's arguments filed 8/12/2002 have been fully considered and require new grounds of rejection to fully treat all the limitations. Applicant argues that all of the applied art are directed to conventional recirculation systems with an indispensable recirculating oil pump. On the contrary, McCarty clearly does not use recirculation nor a pump (see Fig. 1).

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information


Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Ted Kim whose telephone number is 571-272-4829. The Examiner can be reached on regular business hours before 5:00 pm, Monday to Thursday and every other Friday.

The fax numbers for the organization where this application is assigned are 571-273-8300 for Regular faxes and 571-273-8300 for After Final faxes.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Thorpe, can be reached at 571-272-4444.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist of Technology Center 3700, whose telephone number is 703-308-0861. General inquiries can also be directed to the Patents Assistance Center whose telephone number is 800-786-9199. Furthermore, a variety of online resources are available at <http://www.uspto.gov/main/patents.htm>



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